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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,650	02/26/2007	Syoji Takiguchi	20154/0204323-US0	4048
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EXAMINER				
ADDRESSEE, SARA				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,650

Applicant(s)

TAKIGUCHI ET AL.

Examiner

SARA ADDISU

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 2 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "each of the first and the second tip mounting seat having one of the long side faces provides rake faces in a cutter rotation direction" (see 112 rejection for further explanation) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to
comply with the written description requirement. The claim(s) contains
subject matter which was not described in the specification in such a way
as to reasonably convey to one skilled in the relevant art that the
inventor(s), at the time the application was filed, had possession of the
claimed invention.

Claim 1 (last two lines recites "wherein the throw-away tip is mounted on each of the first and the second tip mounting seat such that one of the long side faces provides rake faces in a cutter rotation direction". Further review of the Drawings and Specification (page 17, 4th paragraph) only one of the mounting seats allow the tip to have rake faces provided by a long side face. Specification (page 17, 4th paragraph) recites "*The tip constructed as the above construction is fixed to and mounted on the first tip mounting seat 13 with the clamping screw 15 inserted through the insertion hole 20A of the tip body 20 such that one of the pair of long side faces 22 and 22 becomes is a rake face toward the front side in the cutter rotation direction T by aligning the thickness direction of the tip body 20 approximately with the radial direction of the cutter body 10*".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura (USP 5,919,008) in view of Nakasaki (JP 2001-212712).

SHIMOMURA teaches a pin mirror cutter comprising: a first tip mounting seat formed in a peripheral face of a substantially annular cutter body which rotates around an axis; and a second tip mounting seat formed in an end face of the cutter body, wherein a throw-away tip in which cutting edges are formed at intersecting ridgeline parts between a pair of oppositely disposed side faces and upper and lower faces of the tip body is mounted on the first tip mounting seat such that a thickness direction of the tip body is approximately aligned with a radial direction of the cutter body ('008, figures 4 and 5a). SHIMOMURA teaches inserts (3, 3') are seated such that their thickness direction is aligned with the radial direction while inserts (4) are seated such that their thickness direction is aligned with the axial direction, such that inserts (3, 3') have one of its long side faces provides a rake face in a cutter rotation direction. Furthermore, SHIMOMURA teaches tip bodies for a pin mirror cutter with inner and end faces (also admitted by applicant, remarks dated 6/26/09, page 9, 2nd paragraph, lines 5-6).

However, SHIMOMURA fails to teach the insert/tip having a substantially trapezoidal flat-plate-shaped tip body.

NAKASAKI teaches an end mill comprising: a first and a second tip mounting seat whereby the inserts have an overlapping seating arrangement ('712, figures 8 and 10). NAKASAKI also teaches the cutting tip having a substantially trapezoidal flat-plate-shaped tip body having two obtuse corner parts and two acute corner parts ('712, figure 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize a substantially trapezoidal flat-plate-shaped tip in SHIMOMURA's tool, as taught by NAKASAKI for the purpose of strengthening of the corner part of the insert ('712, English translation, paragraphs 10 and 11).

Response to Arguments

Applicant's arguments filed 6/26/09 have been fully considered but they are not persuasive.

In response to Applicant's argument (page 7) that " With respect to amended Claim 1, Applicants respectfully submit that Shimomura and Nakasaki, alone or in combination, fail to disclose or suggest a pin mirror cutter in which a throw away tip is mounted on first and second seats such that a thickness direction of the tip body is approximately aligned with the radial and axial directions of the cutter body, respectively", Examiner respectfully disagree. As shown in figures 3 and 4 of

SHIMOMURA teaches inserts (3, 3') are seated such that their thickness direction is aligned with the radial direction while inserts (4) are seated such that their thickness direction is aligned with the axial direction. Furthermore, NAKASAKI teaches in figures 6 and 8, inserts (3-5, 30 and 40) are seated such that their thickness direction is aligned with the axial direction while inserts (3 and 20) are seated such that their thickness direction is aligned with the radial direction.

In response to Applicant's argument (page 7) that "Although trapezoid-shaped tip bodies appear to be disclosed by Nakasaki, Nakasaki only appears to disclose how to mount or arrange tips in mounting seats with a thickness direction that is approximately aligned with a radial direction of a cutting tool", Examiner respectfully points out that although NAKASAKI teaches inserts having a thickness direction approximately aligned with the radial and axial directions of the cutter body, respectively (see argument above), Examiner used the teaching of NAKASAKI for the usage of a substantially trapezoidal flat-plate-shaped tip for the purpose of strengthening of the corner part of the insert ('712, English translation, paragraphs 10 and 11, see NPL provided 3/18/2009).

In response to Applicant's argument (page 8) that "Nakasaka does not disclose any embodiment where a tip is mounted on mill 10 with a thickness direction that is approximately aligned with the axial direction of mill", Examiner again points out that

inserts (3-5, 30 and 40) are seated such that their thickness direction is aligned with the axial direction”.

In response to Applicant's argument (page 8) that “..while Nakasaki may disclose use of trapezoidal-shaped tips, Nakasaki fails to disclose or suggest how a tip mounted with a thickness direction approximately aligned with an axial direction of a cutting tool would be arranged such that the tips in the first and second mounting seats both have rake faces provided by a long side face (i.e. leg side face) of the tip body’, Examiner respectfully points out that this is new matter. As mentioned in the Specification (page 17, 4th paragraph) only one of the mounting seats allow the tip to have rake faces provided by a long side face. Specification (page 17, 4th paragraph) recites “*The tip constructed as the above construction is fixed to and mounted on the first tip mounting seat 13 with the clamping screw 15 inserted through the insertion hole 20A of the tip body 20 such that one of the pair of long side faces 22 and 22 becomes is a rake face toward the front side in the cutter rotation direction T by aligning the thickness direction of the tip body 20 approximately with the radial direction of the cutter body 10*”.

In response to Applicant's argument (page 9) that “Although Shimomura appears to disclose tip bodies for a pin mirror cutter with inner and end faces and Nakasaki discloses using trapezoidal-shaped tips, Nakasaki fails to disclose how such tips would be arranged on inner and end faces” Examiner respectfully points out that Nakasaki is not being modified, instead the teaching of NAKASAKI was used to teach the

advantage of using a substantially trapezoidal flat-plate-shaped tip for the purpose of strengthening of the corner part of the insert ('712, English translation, paragraphs 10 and 11, see NPL provided 3/18/2009).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sara Addisu/
Examiner, Art Unit 3724
3/25/10
/Boyer D. Ashley/

Supervisory Patent Examiner, Art Unit 3724